

SUMMARY OF CLAIMS

Claims 1-3, 5, 27-34 are canceled. Claims 4, 12, 16, 20 and 21 are amended. Claims 37-47 are new. Claims 4, 6-26, 35-47 are pending. Reconsideration is respectfully requested in light of the following remarks.

REMARKS

New Matter

No new matter is added. Support for a server to select articles for information extraction in claim 21 is found in paragraphs 0043-0045.

Support for claim 37 is found in Fig. 3 and paragraphs 0007, 0009, 0012, 0025, 0026, 0028, 0029, 0039-0052, 0063-0074, 0078, 0079, 0081-0084, and 0118-0125.

Support for claim 38 is found in paragraphs 0107-0117.

Support for claim 39 is found in paragraph 0120.

Support for claim 40 is found in Fig. 5 and paragraphs 0011, 0077, 0080, 0084, 0086, 0097, 0106 and 0123.

Support for claim 41 is found in Fig. 9B and paragraphs 0030, 0121, and 0123.

Support for claim 42 is found in claim 13 as filed and in paragraphs 0025 and 0030.

Support for claim 43 is found in claim 14 as originally filed and in paragraph 0071.

Support for claim 44 is found in claim 15 as originally filed and in paragraph 0109.

Support for claim 45 is found in claim 16 as originally filed and in paragraph 0071.

Support for claim 46 is found in claim 18 as originally filed and in paragraph 0039.

Support for claim 47 is found in claim 19 as originally filed and in paragraphs 0008, 0012, 0027, 0075, 0107, and 0109.

Support for other claim amendments is addressed in the Specification section below.

Specification

The specification is objected to for allegedly failing to provide proper antecedent basis for the claimed subject matter. More specifically, Examiner has requested that the terms “a database management unit”, “information extraction unit”, “information storage unit” found in claim 12 be corrected.

Applicants respectfully note that these terms appear in the claims as originally filed and therefore, have written support, but in the interest of speeding prosecution have amended claim 12 to employ alternate nomenclature to describe the system’s components. The term “information extraction unit” is now amended to “information extractor.” Support for the use of this term is found through out the specification including the abstract, and paragraphs 0007, 0009-0011, 0017, 0019, 0020, 0028, 0031, 0046-0049, 0051-0055, 0058, 0060-0080, 0082, 0085, 0088-0093, 0096-0100, 0103-0106, 0109, 0116, 0119, 0120, 0122, and 0123. Support for an information extractor that is an application program is found in paragraph 0052.

The term “database management unit” was amended to “content reviewer.” Support for the use of this term is found through out the specification including Figure 5 and paragraphs 0009, 0010, 0079, 0082-0085, 0096, and 0104. Support for a content reviewer that is an application program is found in paragraph 0079.

The term “information storage unit” was amended to “computer system.” Support for the use of this term is found through out the specification including Figure 1 and paragraph 0023.

In light of the amendments, Applicants respectfully request Examiner withdraw the objection to the specification.

Claim Rejections – 35 USC § 101

Claims 12-26, 35, and 36 are rejected under 35 U.S.C. §101 for allegedly being directed to software per se, a non statutory subject matter.

The rejection is now moot as Applicants amended claim 12 to require a computer system. Therefore, Applicants respectfully request the withdrawal of the rejection.

Claim Rejections – 35 USC § 103

During patent examination, the PTO bears the initial burden of supporting a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art references must teach or suggest all claim limitations.

Applicant believes Examiner has not met her burden under § 103 for the following reasons:

A. Claims 4, 6-16, 18, 20-26, 35-36 are rejected under 35 U.S.C. §103(a) over Mahran and Hinman

Claims 4, 6-16, 18, 20-26, 35-36 are rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent Publication Number 2002/0165737 issued to Howard E. Mahran (“Mahran”) and US Patent Number 7,022,905 issued to Jeremy D.F. Hinman et al (“Hinman”). Mahran is alleged to teach all limitations of the instant invention except “Mahran does not explicitly teach verifying that the information extracted from the selected articles by the knowledge personnel is correct and that it has been placed in the correct storage format in the knowledge representation, wherein the verification is performed by quality control personnel.” Hinman is alleged to supply this missing limitation. Applicants traverse the rejection on the ground that at least two elements are missing from Maharan and that these deficits are not supplied by Hinman.

Marahan does not show at least two elements of the invention. First, Marahan fails to show extracting information and representing it in an object and process relationship. Second, as the Examiner acknowledges, Marahan fails to show a quality control step that verifies that the information is correct and that it has been placed in the proper format. Implicit in the verification step of claims 4 and 12 is the requirement that an extracted fact or finding remains represented as an object and process relationship, otherwise it would not be correct and could not be properly formatted for storage.

Claim 4 requires information representing a fact expressed in an article's natural language to be extracted and formatted as at least an object and process relationship. Similarly, claim 12 requires a finding to be translated into a structured finding comprising at least an object, process, and a relationship between the object and process. Object and process relationships are described in paragraphs 0071-0073 of the instant invention. "A fact may be comprised of discrete objects and processes. The discrete objects may represent physical things, temporal things, abstract things, etc. For example, in the life sciences field, the discrete objects may be genes, proteins, cells, organisms, etc. Processes are actions that act on targets which are also discrete objects, or on other processes." An example of this definition is provided at the bottom of paragraph 0071. " . . . GST-bax binds to bc2 . . . " This example illustrates two objects, in this case, the proteins GST-bax and bc2, and the process of one protein binding to another. In essence, discrete objects may act as nouns and processes may act as verbs to create a factual statement.

Applicants respectfully contend that Mahran does not disclose the representation of a fact expressed in an article's natural language as at least an object and process relationship. Applicants assert that cited paragraph 0123 and corresponding Figure 9 are inapplicable for use as reference because as paragraph 0122 states the treatment dataset described in paragraph 0123 and Figure 9 is a separate dataset that is incorporated into database 22. It does not contain data extracted directly from medical literature.

Furthermore, as paragraph 0123 and Figure 9 disclose, the treatment dataset contains indications for each treatment, with each indication record populated by fields for individual components of the indication. There is no disclosure of the individual components being arranged and stored as facts in an object and process relationship.

As there is no disclosure in Mahran of the representation of a fact as an object and process relationship, there can be no verification step to ensure that extracted information is correctly formatted for storage e.g., "a fact expressed in an article's natural language as at least an object and process relationship." Examiner acknowledges this lack of disclosure.

Applicants further contend that Hinman does not remedy the deficits of Mahran and is lacking in at least two aspects. First, Hinman does not disclose the extracting and formatting a fact expressed in an article's natural language as at least an object and process relationship. Second,

Hinman does not disclose a verification step that reviews, corrects, and confirms that the extracted information is correct and that it is properly formatted.

Hinman does not disclose the extracting and formatting of fact-based information. Instead, Hinman describes classifying subjectively perceived attributes or characteristics of a musical composition (column 3, lines 20-36; column 5, lines 24-43). Classifications such as “Rhythm,” “Zing,” “Mood” and “Twist” reflect the perceived attributes of a musical composition as a whole and are not extracted facts contained within the composition. Furthermore, music makes no assertions of fact that can be expressed in an object and process relationship.

Hinman also does not disclose a verification step that confirms that the extracted information is represented in an object and process relationship and that makes corrections as necessary to verify that the extracted information is correctly formatted. It cannot, because Hinman never performs the initial extraction and formatting step. The quality control step cited in column 12, lines 1-7 of Hinman states that “classification values” are reviewed while listening to the musical composition. These are subjective attributes that are reviewed for consistency or standardization among a pool of listeners and not the verification of facts expressed in an object and process relation.

Since at least two elements are missing from Mahran and these deficits are not remedied by Hinman, Applicants respectfully assert Examiner has not made a *prima facie* case of obviousness. Hence, Applicants request Examiner withdrawal of the rejection of claims 4, 6-16, 18, 20-26, 35-36 under 35 U.S.C. §103(a)

B. Claim 17 is rejected under 35 U.S.C. §103(a) over Mahran and Hinman in view of Chin

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahran and Hinman in view of U.S. Patent Number 6,470,277 issued to Daniel J. Chin et al. Applicants traverse the rejection.

Applicants respectfully contend that for at least the reasons given in A. above, Examiner has not presented a *prima facie* case of obviousness for claim 17 under 35 U.S.C. §103(a). Furthermore, the deficits of Mahran and Hinman are not cured by Chin, hence, Applicants request the withdrawal of the rejection.

C. Claim 19 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mahran, Hinman and Zhang

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahran Hinman in view of US Patent Number 6,498,795 issued to Junbiao Zhang et al. Applicants traverse the rejection.

Applicants respectfully contend that for at least the reasons given in A. above, Examiner has not presented a *prima facie* case of obviousness for claim 19 under 35 U.S.C. §103(a). Furthermore, the deficits of Mahran and Hinman are not remedied by Zhang, hence, Applicants request the withdrawal of the rejection.

CONCLUSION

In light of the remarks set forth above, Applicants believe that they are entitled to a letters patent. Applicants respectfully solicit the Examiner to expedite the prosecution of this patent application to issuance. Should the Examiner have any question, the Examiner is encouraged to telephone the undersigned.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 23-2415 (Attorney Docket No. 27763-703.301) for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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